University of Massachusetts at Boston
College of Education and Human Development, Critical &
Creative Thinking Program
University Honors Program

Environment, Science & Society: Critical
Thinking

CrCrTh640/Honors 380-01
Fall 2010
Syllabus

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Class meetings: Mondays September 13 -December 13 (exc. Oct. 11)

Honors 380 in W-2-209, 4-6.30pm; CrCrTh640 in McC 2-628C, 6.45-9.15pm, except
4-6.30pm in W-2-209 on 9/13 & 10/4 (and TBA, also 11/1 & 12/6)

Office/phone call hours: Monday 2.40-3.40; Tuesday 3.20-4, 5.30-6.30pm by sign up
(ptaylor.wikispaces.umb.edu/PTOfficeHours) or by arrangement
Websites: www.faculty.umb.edu/pjt/640-10.html and links
Private wikispaces for assignment submission: CCT-xx.wikispaces.umb.edu (where xx is
your last name; username & password as for your @umb.edu email)
Course wikipage for additional info & for sharing work for peer commentary:
crcrth640.wikispaces.umb.edu
Listserv/discussion forum: Emails sent to cct640@googlegroups.com will go to everyone in
the course
Annotated bibliography and WWW bookmarks: groups.diigo.com/group/envscisociety

CATALOG DESCRIPTION

Through current and historical cases, this course explores the diverse influences that shape
environmental science and politics and their pedagogical, professional, social, and moral
implications for educators, environmental professionals, and concerned citizens.

Overview for 2010

Current and historical cases are used to examine the diverse influences that shape
environmental science and politics. This exploration, in turn, leads to new questions and
alternative approaches for students and concerned citizens. Such critical thinking is applied
to topics such as ideas of nature, conservation and colonialism, systems thinking,
population growth, climate modeling, the tragedy of the commons, socioenvironmental
analysis, local knowledge & participatory planning, transnational economics, and dystopian
futures.
Students are, at the same time, introduced to a range of perspectives and tools for
developing research questions, writing, and collaborations that support inquiry and action.
Each 2.5 hour, once-per-week course session includes time for students to practice
applying the new perspectives and tools to an environmental topic of their own interest.
These tools and perspectives include guided freewriting, personal/professional development workbooks, problem-based learning (PBL), annotating and sharing bibliography entries online, diagramming and mapping complex connections, the dialogue process, strategic participatory/stakeholder planning process, peer commentary and cooperative group work, historical analysis of key terms (e.g., nature, science, environment, society, critical), dialogue around written work (revision in response to comments), and more. Regular, small writing assignments and revisions are required and a modest amount of reading. Students can expect to spend 5-7 hours/week preparing for the course outside class meetings. An extended overview and details about sessions are given on the course wiki.

PREREQUISITES and preparation assumed for this course

Graduate standing or permission of instructor. In lieu of other formal prerequisites, your previous studies and other experience should have prepared you to consider a range of perspectives and tools for developing research questions, writing, and collaborations that support inquiry and action. Additional preparation valuable for the course is the ability to formulate and pursue library and internet research and to write, seek feedback, and revise in systematic and efficient ways with minimal supervision (see research and study competencies).

ACCOMMODATIONS: Sections 504 and the Americans with Disabilities Act of 1990 offer guidelines for curriculum modifications and adaptations for students with documented disabilities. If applicable, students may obtain adaptation recommendations from the Ross Center (287-7430). The student must present these recommendations to each professor within a reasonable period, preferably by the end of the Drop/Add period.

Students are advised to retain a copy of this syllabus in personal files for use when applying for certification, licensure, or transfer credit. This syllabus is subject to change, but workload expectations will not be increased after the semester starts. (Version 16 January 2012; changes after the start of the semester are marked in blue)

TABLE OF CONTENTS

Sections To Follow In Syllabus

Texts and Materials
Electronic organization and competencies
Requirements
Schedule of Sessions, Preparation and related handouts, Assignment due dates

Links to specific Sessions on the web version of the syllabus: Session 9/13, 9/20, 9/27, 10/4, 10/18, 10/25, 11/1, 11/8, 11/15, 11/22, 11/29, 12/6, 12/13

Bibliography

TEXTS and MATERIALS


Other than Unruly Complexity, most readings for the course are individual articles and book chapters that can be downloaded through password protected site.

**ELECTRONIC ORGANIZATION and COMPETENCIES**

All course materials can be accessed via the online version of this syllabus together with your personal CCT-xx.wikispaces.umb.edu/640checklist wikipage for assignment submission (where xx = your last name). You should create a bookmark to: 1. the table of contents for this syllabus (http://www.faculty.umb.edu/pjt/640-10.html#TOC); and 2. your CCT-xx 640checklist wikipage, then use these as your portals to any other course materials. (It might also help to bookmark password protected site for readings and additional information to prepare for sessions and follow-up afterward that will be posted during the semester on the course wiki, cccrth640.wikispaces.umb.edu/640sessions

The specific technological competencies you will need for this course are described at cccrth640.wikispaces.umb.edu/640Tech.)

**ASSESSMENT & REQUIREMENTS:**

More detail about the assignments and expectations is provided in the Notes section of the course wiki, and will be supplemented when needed by emails to course listserv. (The same details can also be viewed via links to your CCT-xx 640checklist page and http://cccrth640.wikispaces.umb.edu/640checklist.)

A. **Written assignments(2/3 of grade)**

The course project is a plan for your future research and engagement on a topic that involves environment, science, and their relation to social context. Engagement might range from teaching, to activism, to personal/professional development, and it also means you are engaged—the topic is one you want to learn more about.

The plan should include the topic, review of relevant publications, and steps in the process of research and engagement (1500-2500 words).

Your topic and research plan are developed through a sequence of assignments:

A1. Presentation in session 4 on PBL case, A2. Briefing from PBL case, A3-A8. Thoughtpieces (350-600 words) that contrast your previous view of your topic with new thinking and questions that arise from the session, for sessions 5-10, A9. complete draft research plan, and A10. revised final report on research plan.

Initial submissions of all assignments due on the dates given in the Schedule of sessions below (as well as in your assignment checklist).

At least seven should be revised and resubmitted in responses to comments until OK/RNR (=OK/ Reflection-revision-resubmission Not Requested).

If the complete report is not OK/RNR by the date for submission of grades an incomplete may be submitted (see link on assignment check-list for policies about incompletes).

For CCT students this plan should be suitable for inclusion in the required Reflective Practitioner’s Portfolio because the plan is on a topic that has evolved during the course of the semester as you integrate the perspectives from each session and look ahead to future research and engagement on a topic that involves environment, science, and their relation to social context.

**Participation and contribution to the class process (1/3 of grade)**

B. Building learning community through prepared participation and attendance at class
meetings (=13 items) and B2. "syllabus quiz" submitted in session 2 and B3. Weekly buddy check-ins (see C1, below) (=3 items for 12 check-ins).  
C. Personal/Professional Development (PD) Workbook compiled throughout the semester (9 items), including:

   C1. Weekly entries, perused at first conference or before mid-semester break, on a. thoughts and questions about the tools and perspectives introduced in readings, sessions, and other discussions, especially as they relate to your evolving research topic, and b. weekly buddy check-ins (4 items)(see also C3)  
C2. worksheet on PD workbook submitted in session 6  
C3. Whole PD workbook ready for perusal (in hard copy or on wiki) at the end of the semester (session 13)  
C4. Annotated bookmarks to relevant items on the internet, posted on diigo (2 items for 6 postings before session 13)  
C5. Process review on the development of your work (due session 13)

D. Minimum of two in-office or phone conferences on your assignments, PD workbook, personal wikipage, and project -- one before session 6; the other by session 10 (=2 items)  
E. Peer commentary on your buddy's work in each 4-week period and on another student's draft report (with copy posted on peer share wiki) (=4 items)

The grading system is simple, but unusual, so ask questions to make sure you have it clear: Students should aim for all writing and presentation assignments submitted on the due date and seven, including the complete report, OK/RNR (=OK/ Reflection-revision-resubmission Not Requested) as well as 26 participation items fulfilled.  
If you reach or exceed this amount, you get 80 points (which gives you an automatic B+) and the following rubric is used to add further points.

   For each quality "fulfilled very well" you get 2 points or 1 point if you "did an OK job, but there was room for more development/attention." You get 0 points if "to be honest, this still needs serious attention."  
   1. A sequence of assignments paced more or less as in syllabus (and revisions timely),  
   2. often revised thoroughly and with new thinking in response to comments.  
   3. Project innovative, well planned and carried out with considerable initiative, and  
   4. indicates that you will be able to move to research and engagement on your topic.  
   5. Project report clear and well structured,  
   6. with supporting references and detail, and professionally presented.  
   7. Active contribution to and reflection on process of learning from session activities around semester-long projects  
   8. Active, prepared participation and building the class as learning community, and  
   9. supporting buddy partners and other class members.  
  10. PD workbook, thought-pieces, and process review show: Consistent work outside sessions,  
   11. deep reflection on your development through the semester and  
   12. map of the future directions in which you plan to develop.

If you don't reach the automatic B+ level, your points = 7 for each writing assignment (or presentation) that is marked OK/RNR + 3 for each other writing assignment initially submitted by the due date + 1 for each participation item fulfilled up to a maximum of 80.

Overall course points are converted to letter grades as follows: The minimum grade for A is 95 points, for A­ is 87.5, for B+ is 80, for B is 72.5; for B­ is 65; for C+ is 57.5; for C is 50; and for undergraduates only: for C­ minimum is 47; for D+ is 44; for D is 41; for D­ is 38.  
(In theory it is possible for a student to earn 104 points, but this would still be awarded an A.)
The difference in expectations for graduate and undergraduate students lies in what will be accepted as OK/RNR for written assignments and what counts as "fulfilled very well," "did an OK job," "still needs serious attention" in the rubric above.

**Plagiarism:** Using another person's ideas or material you did not write without citing the source is plagiarism and is unacceptable (see library guide and Academic Honesty policies).

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**SCHEDULE OF CLASSES**

To prepare for sessions and follow-up afterward consult the additional information that will be posted during the semester on the course wiki, crcrth640.wikispaces.umb.edu/640sessions.

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**9/13, 1. Introductions**

**Preparation:**
- Purchase course texts
- Review instructor's portfolio and past evaluations for the course
- Begin to get set up technologically

**Session:**
- Typical components of class sessions--Ideas, activities, workshop on application to students' projects--and relation to course goals.
- Activity: How do we know if we have a population-environment problem?
- Workshop: Introduction to Problem-Based Learning (PBL) case, initial freewriting, student introductions and initial ideas.
- **Follow-up:** B2. Syllabus quiz; Exploration on the internet to find an initial angle related to the PBL scenario that you want to investigate; Email the instructor a progress report on what you have been looking into

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**9/20, 2. PBL: "Moving beyond global environmental polarization" I**

**Preparation and Follow-up:** [info](#)

**Session:** Questions about syllabus, requirements, wiki, etc.

**Discussion of PBL approach and Workshop on PBL case**

**Critical Incident Questionnaire**

**Work due this session:** B2. Syllabus quiz

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**9/27, 3. PBL: "Moving beyond global environmental polarization" II**

**Preparation and Follow-up:** [info](#)

**Session:** Feedback from Critical Incident Questionnaire

**Work-in-progress presentations on PBL case**

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**10/4, 4. PBL: "Moving beyond global environmental polarization" III-presentations**

**Preparation:** PBL Presentation & Briefing (see [info](#))

**Session:** Presentations to Panel

**Follow-up:** includes read Taylor, "How do we know.."

**Work due this session:** A1. Presentation & A2. Briefing

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No class 10/11 (but see Columbus-day-relevant readings by Cronon, O'Hara, Stevens, Wolf)

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**10/18, 5. Historical changes and tensions in people's views of nature, including views of ecologists**

Read: Williams, "Ideas of Nature," Worster, "Scrambling for a place" ([see info](#))

**Session:** Mini-lecture: William's history of changing ideas of nature

**Review of Worster to identify tensions evident in Darwin (which persist today)**

Read and revise a multi-person conversation about contemporary ideas about nature.

**Follow-up:** includes items for reflection and possible integration into thought-piece based
on additional readings:
Begon, "The influence of predation and disturbance."
Botkin, Chapters 1 & 12 from Discordant Harmonies
Worster, "Science in Arcadia & The empire of reason"

10/25, 6. Diagramming Systems of Humans and Nature
Read Taylor, Unruly Complexity, chap. 3 (see info)
Session: Interactive lecture on interpretation of diagrams, esp. of systems ecologist, H.T. Odum
Examination of diagrams related to students' topics
Follow-up: includes read Odum from Environment, Power & Society
Work due this session: A3. Thought-piece based on session 5; C2. worksheet on PD workbook and research organization; D. First in-office or phone conference before now

11/1, 7. Hidden Complexity of Simple Models
Read: Hardin, "Tragedy of the commons" (see info)
Session: Simulation of Tragedy of the commons
Identification of causal models related to students' projects and their hidden complexities.
Critical Incident Questionnaire 2
Follow-up: includes read Taylor, Unruly Complexity, chap. 6, part A
Work due this session: A4. Thought-piece based on session 6

11/8, 8. What does it take to make "nature" in some time and place?
Read: Haraway, "Teddy bear patriarchy" (see info)
Session: View and comment on Paper Tiger TV, "Donna Haraway reads national geographic"
Identifying historical research needed to interpret what lies behind students' topics
Work due this session: A5. Thought-piece based on session 7

11/15, 9. Mapping the resources mobilized in research
Read Taylor, Unruly Complexity, chap. 5, part B (see info)
Session: Mini-lecture
Mapping the resources mobilized in students' planned research
Work due this session: A6. Thought-piece based on session 8

11/22, 10. Intersecting Ecological and Social Processes
Read: Pearce, "Inventing Africa" (see info)
Session: Case of soil erosion in Oaxaca, Mexico
Tracing the intersecting ecological and social processes in Pearce, then in students' topics
Follow-up: Read Taylor, Unruly Complexity, chap. 5, part C & chap. 6
Work due this session: A7. Thought-piece based on session 9; D. Second in-office or phone conference before now

11/29, 11. Intersecting Processes II
Preparation: Read and trace the intersecting ecological and social processes in Butler's fiction (see info)
Session: Dialogue Process on the intersecting ecological and social processes in Butler's fiction
Work due this session: A8. Thought-piece based on session 10

12/6, 12. Locally centered positioning in tension with translocal
Read Taylor, Unruly Complexity, Epilogue (see info)
Session: Strategic Personal Planning in relation to student's research plan
Mini-lecture on Strategic Participatory Planning
Work due this session: A9. Complete draft plan for research

12/13, 13. Taking stock of where we have come and where we could go
Session: Historical scan
CCT course evaluation, followed by official evaluations
Work due this session: C4. Whole PD workbook ready for perusal; C5. Process Review; E. Peer commentary on another student's draft report

Work due 12/20: A10. Plan for research, revised in response to peer and instructor comments

BIBLIOGRAPHY

(Readings used in preparation or follow-up to sessions)
(Other than Unruly Complexity, most readings for the course are individual articles and book chapters that can be downloaded through password protected site.)

Supplementary Bibliography

(These and other additional readings may be recommended for deeper consideration of the issues raised in both environmental sciences and in interpretation and critical thinking).


